SWITCH SETTINGS AND DRIVE INSTALLATION INSTRUCTIONS FOR THE KAYPRO 2000 BASE UNIT

Part Number 4350

SWITCH SETTINGS

It is possible to set up the KAYPRO 2000 BASE UNIT in many different ways; to have many different configurations of accessories. For example there may be one 5.25" diskette drive, or a 5.25" drive and a 3.5" drive, or a 5.25" drive and a fixed disk. With all of these configurations you may or may not use an external RGB monitor.

Once you choose how many diskette drives you are going to have, and what type they will be, what the parallel port will be designated, and what type of display you will use, you must set the configuration switches to match your choice. To gain access to these switches you must remove the top panel, the top-rear assembly, then remove the power supply.

1. Using a #1 phillips screwdriver, remove the screws that hold the top panel in place.
2. Remove the top panel by gripping the alignment posts and lifting upwards.
3. Using a #1 phillips screwdriver remove the three screws along the top of the rear panel.
4. On the right side of THE KAYPRO 2000 BASE UNIT there is a three inch decorative plastic plate held in place by four small screws. Using a #0 phillips screwdriver remove these screws and the plate. This reveals two larger screws.
5. Remove the two larger screws.
6. Follow the same procedure on the left side.
7. Remove the top-rear assembly, exposing the power supply.
8. Remove the four screws that hold the power supply in place.
9. Remove the power supply from its posts, and move it away from the work area, exposing the DIP switches.
10. Reverse this procedure to re-install both top panels, but for now examine the switches.

The KAYPRO 2000 BASE UNIT is shipped with these switches set for the KAYPRO 2000 3.5 inch internal diskette drive and an external (in the base unit) 5.25 inch diskette drive. The base unit ROM can accommodate one or two fixed disk drives, so there are no switch settings for a fixed disk. The switch settings affect diskette drives and video display only.

Different switch manufacturers *label* their switches differently. Some have positions 0 and 1, while others are Open and Closed. Still others are Up and Down. The following chart and switch explanations refer to positions 0 and 1. If the switches in your base unit have different designations, refer to the following equivalences.

AA ~~ALL~~ NIKKI

0=Up=open=off -- 1=Down=closed=on

ON **Switch 1** This switch defines whether or not any drives exist. Since there is always at least one drive in the system (the internal drive), switch two must always be set in the 1 position.

NA **Switch 2** Switch two is not used.

BOTH OFF **Switches 3 and 4** These switches tell the KAYPRO 2000 what device it is attached to. Both of these switches must be set to the 1 position.

Switches *5 and 6* These switches, in tandem, determine the display type. **IMPORTANT:** *When installing a video adapter card for any external video, jumper position J14 closed, meaning place a jumper block in J14.*

5	6	
0	0	No display attached.
0	1	40 Columns by 25 rows color.
1	0	80 Columns by 25 rows color.
1	1	80 Columns by 25 rows Black and White or Monochrome.

5 6
LCD ON OFF
MONO OFF OFF

Switches 7 and 8 These switches define the number of diskette drives in the system:

7	8	
0	0	One diskette drive, the internal KAYPRO 2000 drive.
1	0	Two diskette drives, the internal 3.5 inch drive and an external 3.5 inch drive.
0	1	Three drives, either an internal 3.5 inch, an external 3.5 inch and a 5.25 inch, or an internal 3.5 inch and an external 5.25 inch. If there is only one 3.5 inch drive it functions as both the A and B drive.
1	1	Four drives. If two 5.25 inch drives are installed, then use this switch setting. The KAYPRO 2000 reserves the B drive for a 3.5 inch diskette drive only.

(ON -OFF)

INSTALLING DRIVES

Installing drives in the KAYPRO 2000 BASE UNIT is a fairly simple procedure. You will need a set of small phillips screwdrivers--0 through 1 and four screws--6/32 by 5/16. Place the base unit on a conductive, grounded mat and attach a grounding strap to your wrist with the drain lead connected to ground. These instructions begin with a series of steps you must take to install any drive, followed by detailed instructions for each type of drive. *Disconnect all power to the unit.*

TO INSTALL ANY DRIVE

1. Using a #1 phillips screwdriver, remove the screws that hold the top panel in place.
2. Remove the top panel by gripping the alignment posts and lifting upwards.
3. The front edge of the base unit, located above the 5.25" drive is a plastic strip that runs from the left side of the unit to the right. Remove this plastic strip.
4. Turn the KAYPRO 2000 BASE UNIT over and remove the bottom panel.
5. Turn the KAYPRO 2000 BASE UNIT back to its original position.
6. Using a #0 phillips screwdriver, remove the bezel on the front panel that covers the auxiliary drive space.
7. Observe the empty location for an auxiliary drive inside of the unit. The power and ground cables for the drive you will install are strapped to the chassis with a pull-tie.
8. Carefully cut the pull-tie with a small pair of wire clippers.
9. Fold the cables back out of the way.

INSTALLING A FIXED DISK

1. The fixed disk you are installing may have an LED already attached to it. If this LED is rectangular, fine. If not, attach a rectangular LED to the fixed disk.

2. Hold the fixed disk above the empty space.

3. Feed the LED cable through the gap in the front panel where the bezel used to be.

4. Partially lower the fixed disk into place, by placing the right side of the disk in the space first--brace it in the corner formed by the KAYPRO 2000 BASE UNIT wall and the chassis. Continue to hold the left side of the drive up.

5. With your free hand, connect the power and ground cables to the drive, then make sure no cables are resting under the fixed disk.

6. Lower the left side of the fixed disk into place.

7. Have the four screws ready near your *right hand*. To attach the fixed disk to the chassis itself place your left hand over the fixed disk, fingers spread wide. Then *while holding the fixed disk firmly in place* tip the KAYPRO 2000 BASE UNIT on to its left side.

8. Lean to the right and look at the area of the chassis directly underneath the fixed disk. Shift the fixed disk slightly in its place until you see the threaded holes in the fixed disk line up with the holes in the chassis.

9. Using a #1 screwdriver and the four screws, attach the fixed disk to the chassis.

10. Lower the KAYPRO 2000 BASE UNIT back to an upright position. Check all the connections to make sure they are firm.

11. Turn the base unit over.

12. You will see the signal and data cable connectors through the rectangular gap in the chassis. Attach the signal and data cables to the fixed disk.

13. Install the fixed disk controller card. Refer to the KAYPRO 2000 BASE UNIT USER'S GUIDE for instructions. **IMPORTANT:** *If the fixed disk controller board has a ROM of its own, then jumper position J11 on THE KAYPRO 2000 BASE UNIT open*, meaning there should be no jumper block in position J11.

14. Attach the signal and data cables to the controller card. See the controller card instructions for details.

15. Turn the KAYPRO 2000 BASE UNIT back over and *place* the top panel back in position. Do not re-attach it.

    The following steps describe the procedure for formatting the fixed disk. If the fixed disk does not behave as described in this procedure, troubleshoot what you have done in steps 1 through 15. Check connections, make sure the controller board is installed correctly, etc.

16. Attach the KAYPRO 2000 to the base unit, and place an MS-DOS utilities diskette in drive A.

17. Connect power to the KAYPRO 2000 BASE UNIT and open the KAYPRO 2000. Now that there is a fixed disk connected, the KAYPRO 2000 will take a *long* time to boot on the A drive--15 to 20 seconds. Next you will *hard format* the fixed disk.

18. At the MS-DOS system prompt:

    Type: DEBUG
    Press ENTER.

19. At the debug prompt (which is a minus sign):

    Type: G=C800:5
    Press ENTER.

20. A paragraph will appear giving a technical description of the hard format with a yes/no query at the end. Answer yes by pressing ENTER.

    The ROM in THE KAYPRO 2000 BASE UNIT will hard format the fixed disk. Next you will partition the fixed disk using FDISK, an MS-DOS utility.

21. At the system prompt:

    Type: FDISK
    Press ENTER.

    The FDISK menu will appear. You will create a DOS partition, and partition the entire disk. You do not have to enter any values--the default values are the ones you want. Press ENTER once to go to the DOS partition menu, press ENTER again to partition the entire disk. When the partition is complete, choose the options to exit back to the system. Next you will do a soft format using FORMAT.COM, an MS-DOS utility.

22. At the system prompt:

    Type: FORMAT D:/S
    Press ENTER.

    Follow the programs prompts.

    The fixed disk is the D drive because the internal drive is designated A, the B drive designation is reserved for a 3.5 inch drive only, and the C drive is the 5.25 inch drive. The next available drive designation is D.

23. Make sure the fixed disk functions as it should. Run any tests or diagnostics deemed necessary. Again, if you encounter a problem troubleshoot what you have previously done.

24. Attach the LED to the bezel.

25 Replace the bezel, the top panel and the bottom panel.

INSTALLING A 5.25 INCH DRIVE

To install a 5.25" drive in the KAYPRO 2000 BASE UNIT you must have a bezel for the drive you are installing and a ribbon cable with a 34 pin female connector at one end and a 34 position card edge connector at the other. These parts are available from KAYPRO. Also make sure the drive you are using is jumpered correctly for the drive designation it will possess. See section nine in THE KAYPRO TECHNICAL MANUAL.

1. The addition of another 5.25 inch drive requires that the DIP switches on THE KAYPRO 2000 BASE UNIT mainboard be changed. Switch four must be moved to the down position. See the section of these instructions titled SWITCH SETTINGS, change the switch, then proceed.

2. Remove the bezel on the front of the 5.25" drive that you are installing.

3. Hold the 5.25" drive above the empty space.

4. Partially lower the 5.25" drive into place, by placing the right side of the diskette drive in the space first--brace it in the corner formed by the KAYPRO 2000 BASE UNIT wall and the chassis. Continue to hold the left side of the drive up.

5. With your free hand, connect the power and ground cables to the drive, then make sure those cables are not resting under the 5.25" drive.

6. Lower the left side of the 5.25" drive into place.

7. Have the four screws ready near your *right hand*. To attach the 5.25" drive to the chassis itself place your left hand over the 5.25" drive, fingers spread wide. Then *while holding the 5.25" drive firmly in place* tip the KAYPRO 2000 BASE UNIT on to its left side.

8. Lean to the right and look at the area of the chassis directly underneath the 5.25" drive. Shift the 5.25" drive slightly in its place until you see the threaded holes in the 5.25" drive line up with the holes in the chassis.

9. Using a #1 screwdriver and the four screws, attach the 5.25" drive to the chassis.

10. Lower the KAYPRO 2000 BASE UNIT back to an upright position. Check all the connections to make sure they are firm.

11. Attach the signal cable to the 5.25" drive.

12. Attach the other end of the cable to position J3 on THE KAYPRO 2000 BASE UNIT mainboard.

13. Make sure the 5.25" drive functions as it should. Run any tests or diagnostics deemed necessary. If the 5.25" drive does not behave as it should, troubleshoot what you have done in steps 1 through 13.

14. Attach the new bezel.

15. Re-attach the top panel and the bottom panel.

INSTALLING A 3.5 INCH DRIVE

To install a 3.5" drive in the KAYPRO 2000 BASE UNIT you must have a 3.5" drive bezel, two 3.5" drive brackets and a ribbon cable with a 34 pin female connector at each end, all of which are available from KAYPRO.

1. Attach the drive brackets to the 3.5" drive using a #1 screwdriver.

2. Lower the 3.5" drive into place, and line up the holes in the 3.5" drive brackets with the threaded holes in the chassis. The 3.5" drive should be flush with the front panel of THE KAYPRO 2000 BASE UNIT.

3. Using a #1 screwdriver and the four screws, attach the 3.5" drive to the chassis.

4. Check all the connections to make sure they are firm.

5. Attach the ribbon cable to the 3.5" drive.

6. Attach the other end of the cable to position J6 on THE KAYPRO 2000 BASE UNIT mainboard.

7. Make sure the 3.5" drive functions as it should. Run any tests or diagnostics deemed necessary. If the 3.5" drive does not behave as it should, troubleshoot what you have done in steps 1 through 7.

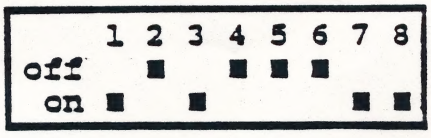
8. Attach the new bezel using a #0 phillips screwdriver.

9. Re-attach the top panel and the bottom panel.

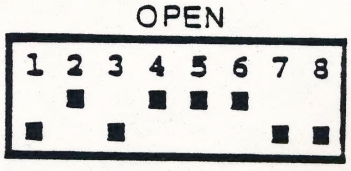
Changing the Video Switch Settings

The Half-Length Multi-Video Board is five inches long and is located directly behind the metal drive housing.

The DIP switch block on the Kaypro Half-Length Multi-Video Board is located on the top edge of the board, near the juncture of the board and the slot cover. The block will look something like this:



Or it will look like this:



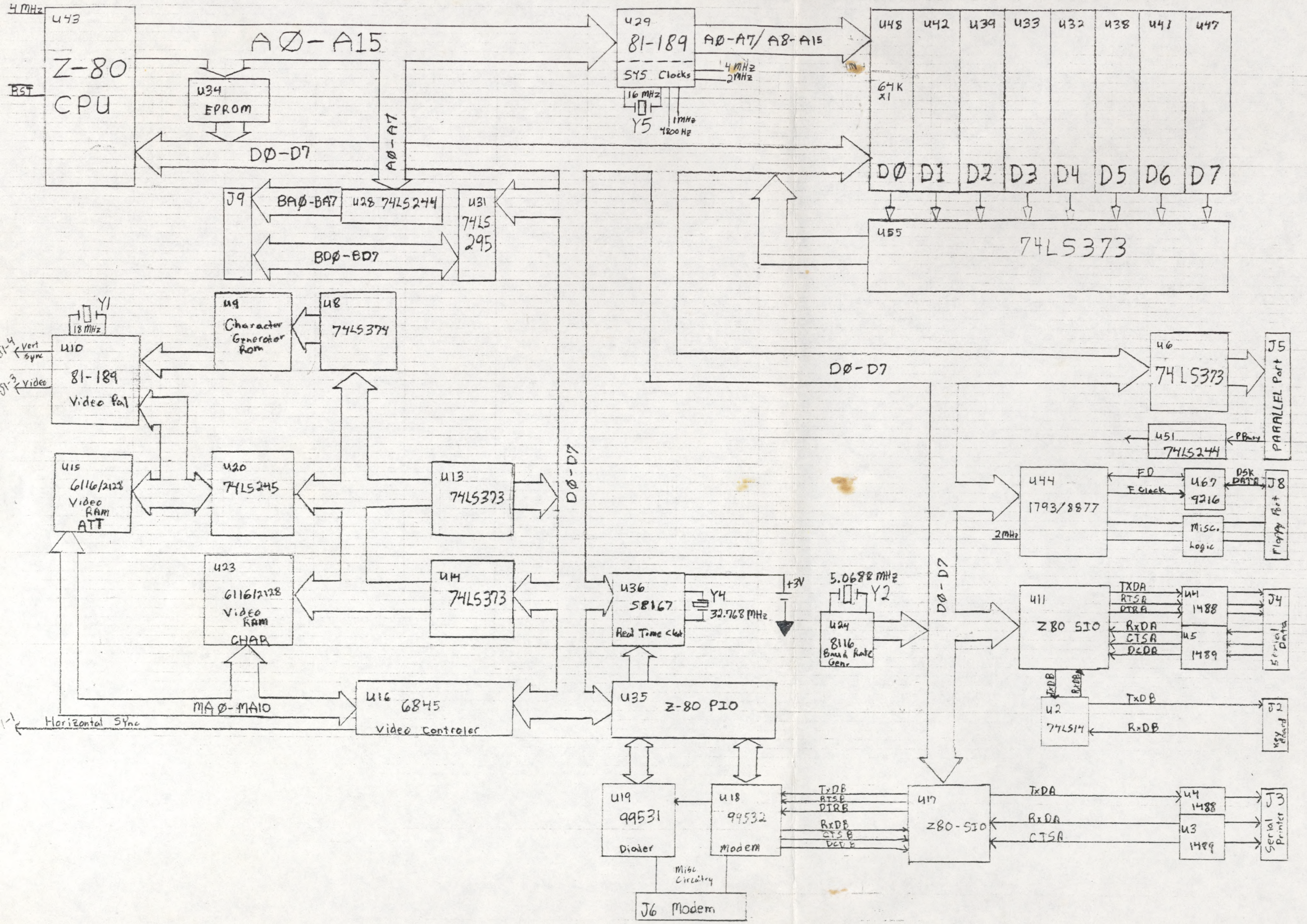
These two switch blocks function exactly the same. They are simply labeled differently. When **reading the diagram below, remember:**

OPEN = OFF

CLOSED = ON

Change the switch settings according to the chart below:

monitor	switch settings							
	1	2	3	4	5	6	7	8
Monochrome	ON	OFF	ON	OFF	OFF	OFF	ON	ON
Color(CGA)	OFF	ON	OFF	OFF	ON	OFF	ON	ON
Composite*	OFF	ON	OFF	ON	ON	OFF	ON	ON
Composite**	OFF	ON	OFF	ON	OFF	OFF	ON	ON
Emulation	OFF	OFF	ON	OFF	OFF	OFF	ON	ON
	*Color **Monochrome							

KAYPRO 2X TROUBLESHOOTING
BLOCK DIAGRAM

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